

Eliminating the '8 Wastes of Lean' with Simulation Software

D Defects **O** Overproduction **W** Waiting **N** Not Utilizing Talent **T** Transportation **I** Inventory Excess **M** Motion Waste **E** Excess Processing

What exactly is waste?

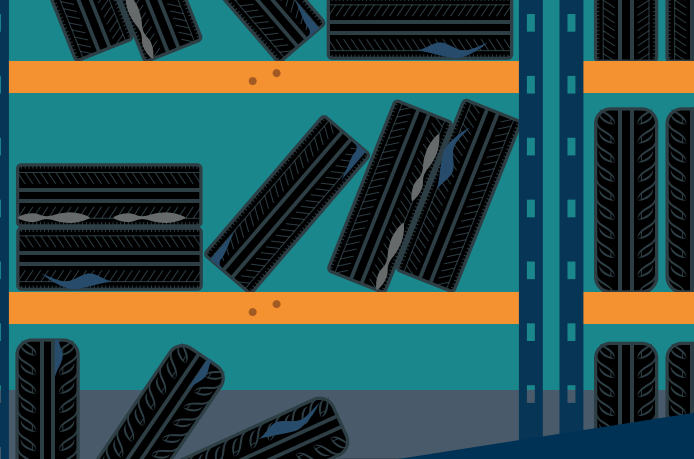
Waste, or Muda, is defined in the Toyota Production System (TPS) as **anything that doesn't increase value for your customers**. When waste is removed, processes are streamlined, valuable time and costs are saved and customer satisfaction is improved.

There are **eight common types of waste**, but did you know that simulation software like SIMUL8 can help you to discover and eliminate these in your organization?

Together, simulation and Lean principles provide a framework to **quickly test process improvements** and **pinpoint approaches that will effectively reduce waste**.

D Defects

Defects are products or services that are **out of specification**. They need extra effort or resources to fix and lead directly to increased costs and lost time, either through repairs or having to start over.



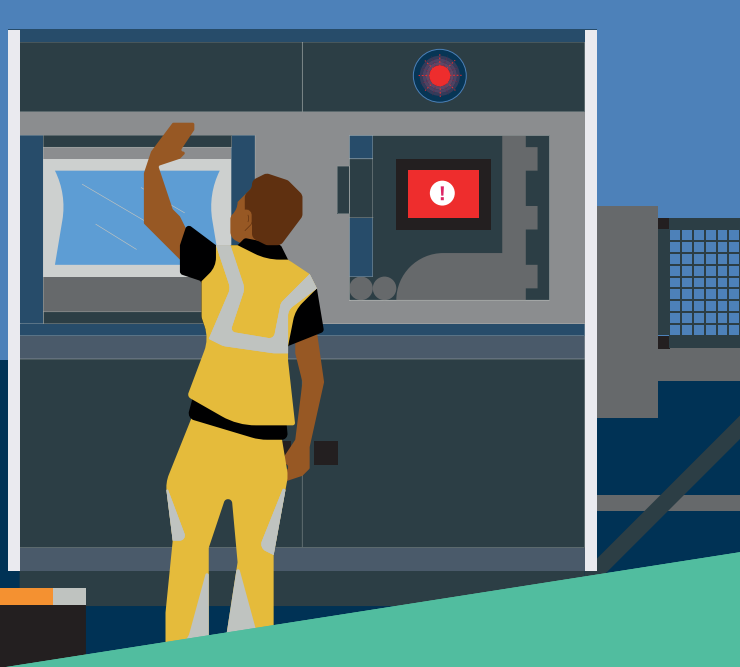
O Overproduction

Overproduction, where **production exceeds customer demand**, is considered the most harmful waste as it itself creates additional waste including excess inventory and transportation.



W Waiting

Waiting occurs whenever **items aren't in transport or being processed**. For example, employees wait for materials, equipment waits for maintenance, or work in process waits for the employee to return.



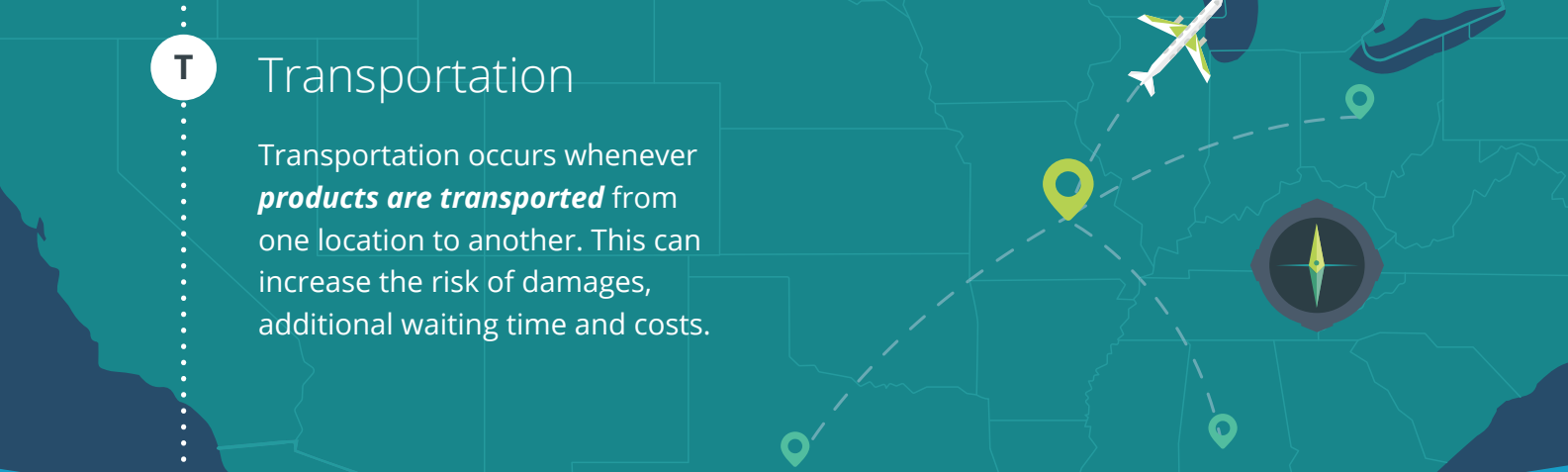
N Not utilizing talent

By **under-utilizing employee skills and knowledge**, organizations limit their potential. Developing talent and providing opportunities to engage in process improvement can have a major impact in reducing waste.



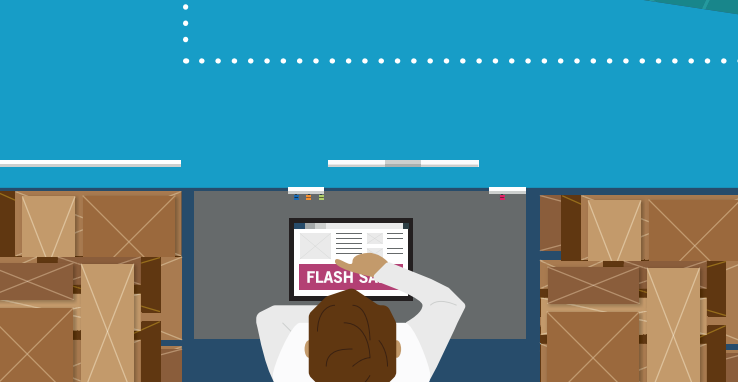
T Transportation

Transportation occurs whenever **products are transported** from one location to another. This can increase the risk of damages, additional waiting time and costs.



I Inventory excess

Inventory, such as raw materials, work-in-progress or goods which are **sitting idle**, is considered waste as it **hasn't yet contributed value** to the end customer.



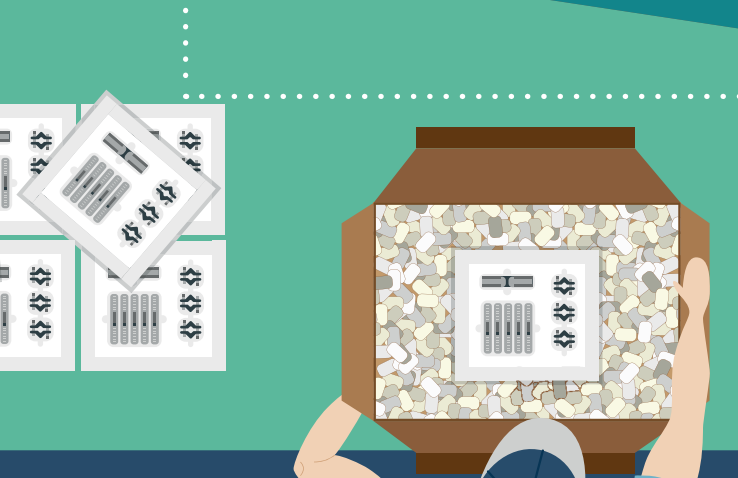
M Motion waste

Unnecessary motion can occur due to inefficient layouts or searching for mislaid items. It can also **increase the risk** of damage to equipment or cause employee injuries.



E Excess processing

Excess processing is any activity that **isn't needed** to produce a functioning product or service and can occur due to **unnecessarily** drawn-out processes.



Why is **simulation software** a key tool for Lean projects?



Identify underperforming, missing or unnecessary processes



Perform risk-free experimentation to understand impact of changes on performance



Shorten time to project completion through rapid simulation modeling and results



Utilize employee knowledge across the business and strengthen stakeholder buy-in

A powerful, analytical approach for collaborative change

The key value of discrete event simulation software like SIMUL8 is the ability to improve processes through an **analytical, risk-free and collaborative approach**.

If you ask 20 people at the start of a waste reduction or Lean project, **"what do you think would be the best way to improve the process?"** you will get 20 different answers!

Computer-based simulation draws out these views and offers the **impartial insight** needed to facilitate and foster collaboration across your business.

Simulation provides a **visual and measurable representation** of a system in action. Everyone can watch as a week, a month or years into the future are played out. A range of different **'what-if?' scenarios** can be analyzed and tested.

This is where the real discussion can begin; each step of the process can be walked through and this shared understanding and the simulation results then **drives discussion about how to effectively reduce waste**.

Any potential changes can be modeled and analyzed, **providing evidence to select the most effective ideas and build the business case for change**.

With **simulation**, you will shorten the time to project completion, strengthen stakeholder buy-in, and guarantee the impact of proposed changes even **before** you pilot.